



## DRILL STEMTEST REPORT

Prepared For: **Samuel Gary Jr. & Associates**

1515 Wynkoop  
Denver, CO. 80202

ATTN: Tom Feral

### **Copper #1-30**

### **30-14s-17w-Ellis**

Start Date: 2012.07.01 @ 10:12:47

End Date: 2012.07.01 @ 19:57:32

Job Ticket #: 47823                      DST #: 1

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed 2012.07.01 @ 20:11:58



**TRILOBITE TESTING, INC.**

# DRILL STEMTEST REPORT

Samuel Gary Jr. & Associates

**30-14s-17w-Elis**

1515 Wynkoop  
Denver, CO 80202

**Copper #1-30**

Job Ticket: 47823

**DST#: 1**

ATTN: Tom Fernal

Test Start: 2012.07.01 @ 10:12:47

## GENERAL INFORMATION:

Formation: **A-BC-D**

Deviated: Nb Whipstock 0.00 ft (KB)

Time Tool Opened: 12:24:17

Time Test Ended: 19:57:32

Test Type: (Initial)

Tester: Jason McLemore

Unit Nr: 54

**Interval: 3197.00 ft (KB) To 3273.00 ft (KB) (TVD)**

Reference Elevations: 1942.00 ft (KB)

Total Depth: 3273.00 ft (KB) (TVD)

1934.00 ft (CF)

Hole Diameter: 7.80 inches Hole Condition: Good

KB to GR/CF: 8.00 ft

**Serial #: 8366**

**Inside**

Press@RunDepth: 684.09 psig @ 3265.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.07.01

End Date:

2012.07.01

Last Calib:

2012.07.01

Start Time: 10:12:49

End Time:

19:57:32

Time On Btm

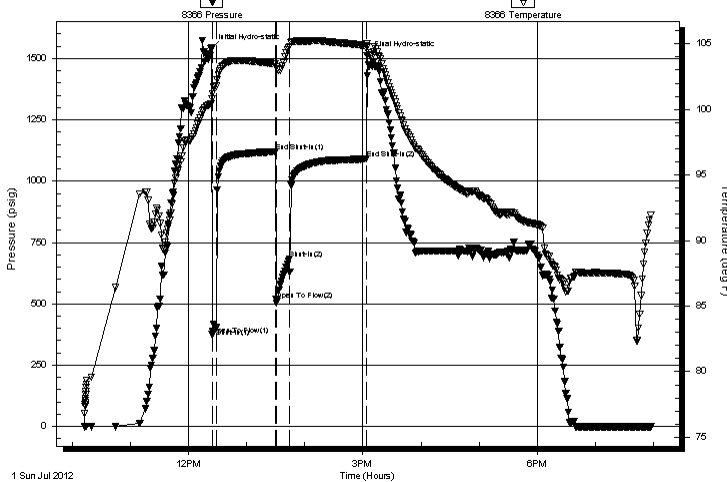
2012.07.01 @ 12:23:32

Time Off Btm

2012.07.01 @ 15:04:17

**TEST COMMENT:** IFF-Strong, COB in 1 Mn.  
IS-Blowback COB in 3 Mn.  
FFP-Strong, COB in 1 Mn. Gas To Surface in 13 Mn.  
FS-Blowback COB in 2 Mn.

Pressure vs. Time



## PRESSURE SUMMARY

Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation
0	1542.04	100.48	Initial Hydro-static
1	374.04	100.81	Open To Flow(1)
5	402.45	101.80	Shut-In(1)
67	1120.07	103.49	End Shut-In(1)
67	516.96	103.23	Open To Flow(2)
81	684.09	104.78	Shut-In(2)
161	1090.72	104.87	End Shut-In(2)
161	1511.84	105.04	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
1562.00	Gassy Oil	21.64

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



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Denver, CO 80202

**Copper #1-30**

Job Ticket: 47823

**DST#: 1**

ATTN TomFertal

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Time Test Ended: 19:57:32

Test Type: (Initial)

Tester: Jason McLemore

Unit Nr: 54

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Reference Elevations: 1942.00 ft (KB)

Total Depth: 3273.00 ft (KB) (TVD)

1934.00 ft (CF)

Hble Diameter: 7.80 inches Hble Condition: Good

KB to GR/CF: 8.00 ft

**Serial #: 8789**

**Outside**

Press@RunDepth: psig @ 3265.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.07.01

End Date: 2012.07.01

Last Calib.: 2012.07.01

Start Time: 10:10:58

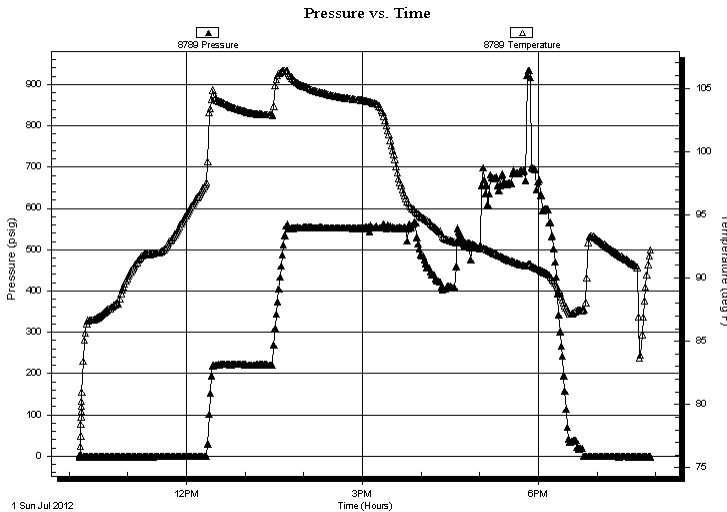
End Time: 19:55:11

Time On Btm

Time Off Btm

**TEST COMMENT:** IFF-Strong,BOB in 1 Mn.  
IS-Blowback BOB in 3 Mn.  
FFP-Strong, BOB in 1 Mn. Gas To Surface in 13 Mn.  
FS-Blowback BOB in 2 Mn.

## PRESSURE SUMMARY



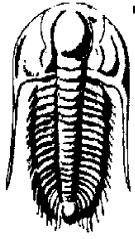
Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation

## Recovery

Length (ft)	Description	Vdume (tbl)
1562.00	Gassy Oil	21.64

## Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



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TESTING, INC.**

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Samuel Gary Jr. & Associates

**30-14s-17w-Elis**

1515 Wynkoop  
Denver, CO 80202

**Copper #1-30**

Job Ticket: 47823

**DST#: 1**

ATTN: Tom Fernal

Test Start: 2012.07.01 @ 10:12:47

## GENERAL INFORMATION:

Formation: **A-B-C-D**

Deviated: Nb Whipstock: 0.00 ft (KB)

Time Tool Opened: 12:24:17

Time Test Ended: 19:57:32

Test Type: (Initial)

Tester: Jason McLemore

Unit No: 54

**Interval: 3197.00 ft (KB) To 3273.00 ft (KB) (TVD)**

Total Depth: 3273.00 ft (KB) (TVD)

Hole Diameter: 7.80 inches Hole Condition: Good

Reference Elevations: 1942.00 ft (KB)

1934.00 ft (CF)

KB to GR/CF: 8.00 ft

**Serial #: 8289**

**Fluid**

Press @ Run Depth: psig @ 3162.00 ft (KB)

Start Date: 2012.07.01

End Date: 2012.07.01

Start Time: 10:08:14

End Time: 19:52:57

Capacity: 8000.00 psig

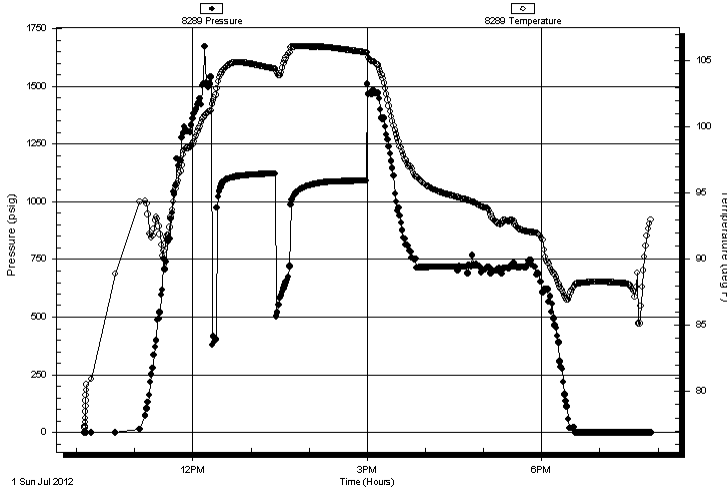
Last Calib.: 2012.07.01

Time On Btm

Time Off Btm

**TEST COMMENT:** IFF-Strong, COB in 1 Mn.  
IS-Blowback COB in 3 Mn.  
FFP-Strong, COB in 1 Mn. Gas To Surface in 13 Mn.  
FS-Blowback COB in 2 Mn.

Pressure vs. Time



## PRESSURE SUMMARY

Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation

## Recovery

Length (ft)	Description	Volume (bbl)
1562.00	Gassy Oil	21.64

## Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



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TESTING, INC.**

# DRILL STEMTEST REPORT

**TOOL DIAGRAM**

Samuel Gary Jr. & Associates

**30-14s-17w-Elis**

1515 Wynkoop  
Denver, CO 80202

**Copper #1-30**

Job Ticket: 47823

**DST#: 1**

ATTN: Tom Feral

Test Start: 2012.07.01 @ 10:12:47

## Tool Information

Drill Pipe:	Length: 3154.00 ft	Diameter: 3.80 inches	Volume: 44.24 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 52000.00 lb
			<u>Total Volume: 44.39 bbl</u>	Tool Chased: 0.00 ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial 46000.00 lb
Depth to Top Packer:	3197.00 ft			Final 48000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	76.00 ft			
Tool Length:	111.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		
Tool Comments:				

## Tool Description

Tool Description	Length(ft)	Serial No.	Position	Depth (ft)	Accum Lengths
Recorder	0.00	8289	Fluid	3162.00	
Change Over Sub	5.00			3167.00	
Shut In Tool	5.00			3172.00	
Sampler	3.00			3175.00	
Hydraulic tool	5.00			3180.00	
Jars	5.00			3185.00	
Safety Joint	2.00			3187.00	
Packer	5.00			3192.00	35.00 Bottom Of Top Packer
Packer	5.00			3197.00	
Stubb	1.00			3198.00	
Perforations	2.00			3200.00	
Change Over Sub	1.00			3201.00	
Blank Spacing	63.00			3264.00	
Change Over Sub	1.00			3265.00	
Recorder	0.00	8366	Inside	3265.00	
Recorder	0.00	8789	Outside	3265.00	
Perforations	5.00			3270.00	
Bullnose	3.00			3273.00	76.00 Bottom Packers & Anchor

**Total Tool Length: 111.00**



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# DRILL STEMTEST REPORT

**FLUID SUMMARY**

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1515 Wynkoop  
Denver, CO 80202

**Copper #1-30**

Job Ticket: 47823

**DST#: 1**

ATTN: Tom Feral

Test Start: 2012.07.01 @ 10:12:47

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

38 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.00 cm<sup>3</sup>

Gas Cushion Type:

Resistivity: ohmm

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1562.00	Gassy Oil	21.637

Total Length: 1562.00ft      Total Volume: 21.637 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Sampler: 75#, 4000ml Gassy Oil, point 8 CF Gas

Serial # 8366

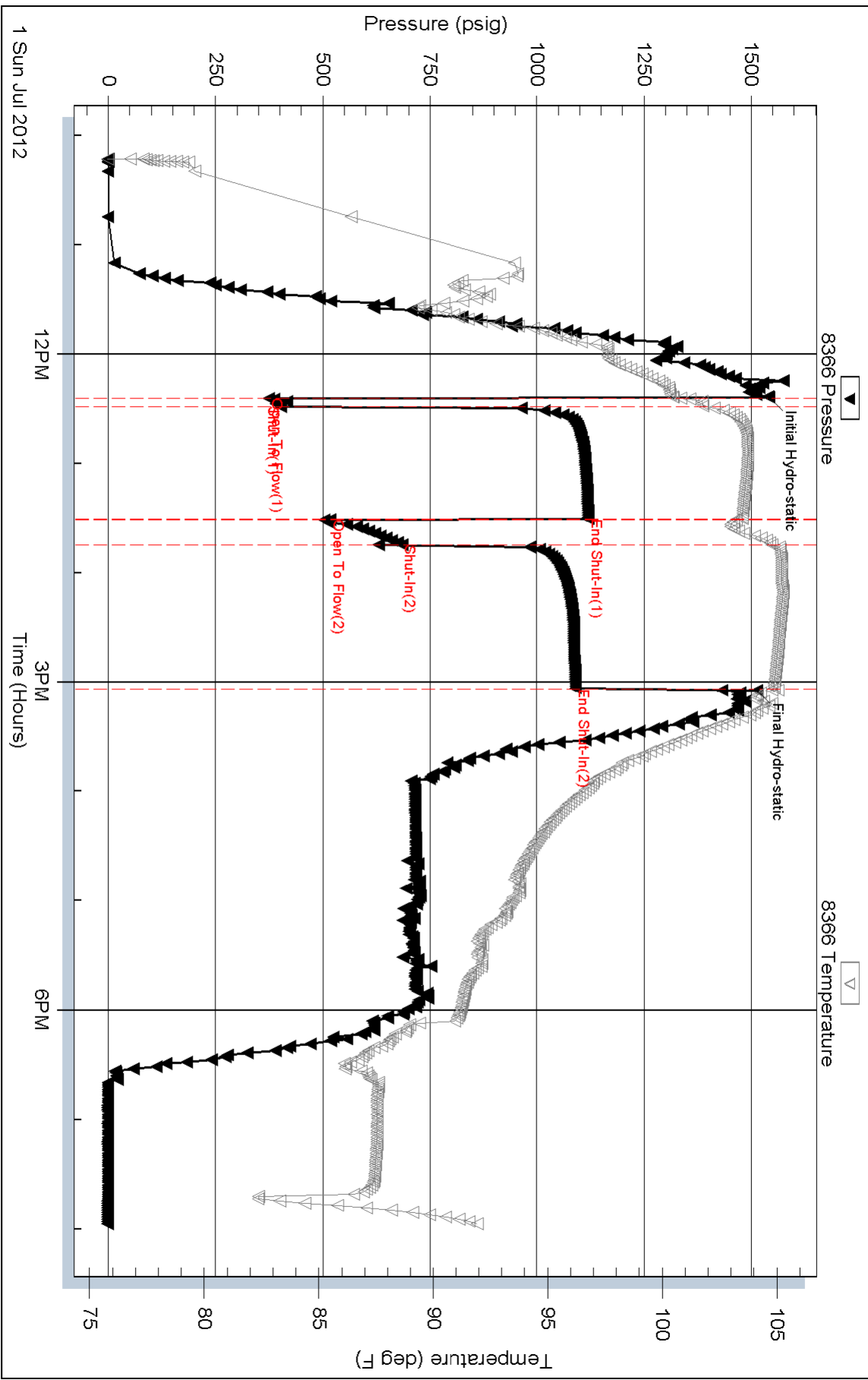
Inside

Samuel Gary J. & Associates

Cooper #1-30

DST Test Number: 1

### Pressure vs. Time



Triodite Testing, Inc

Ref. No: 47823

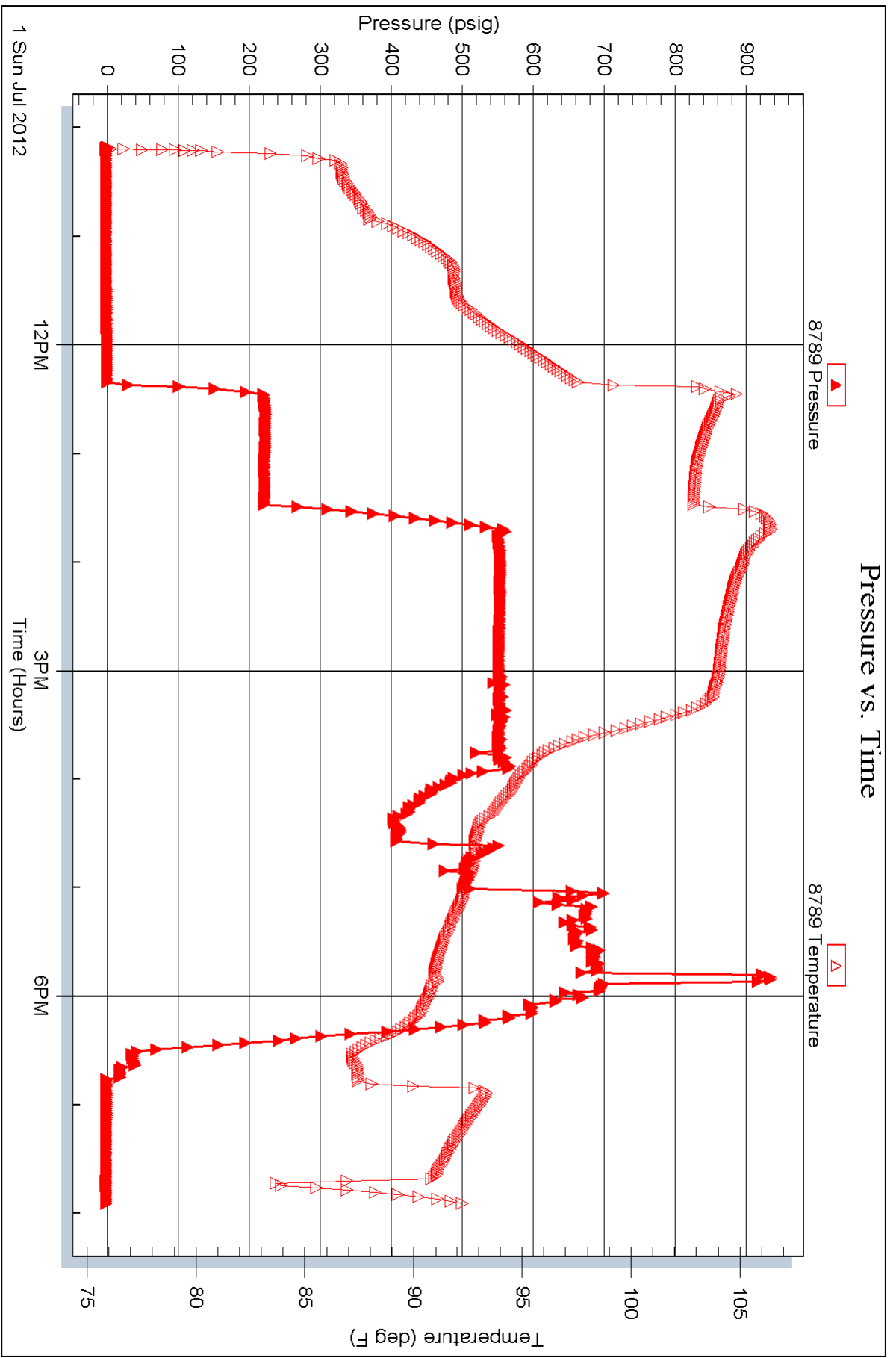
Printed: 2012.07.01 @20:12:00

Serial # 8789

Outside Samuel Gary J. & Associates

Cooper #1-30

DSTest Number: 1



Thickdie Testing, Inc

Ref. No: 47823

Printed: 2012.07.01 @20:12:01



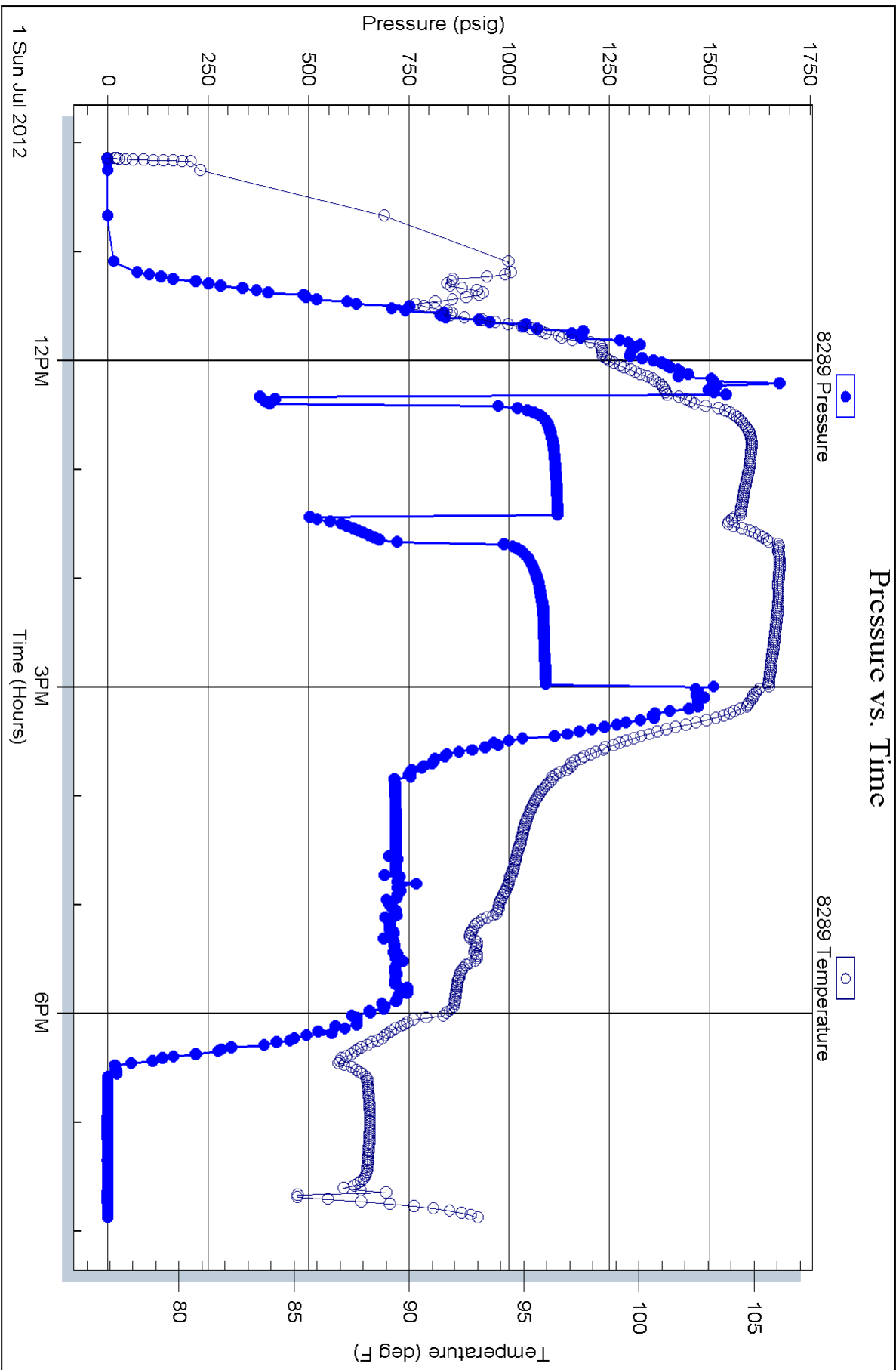
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Fluid

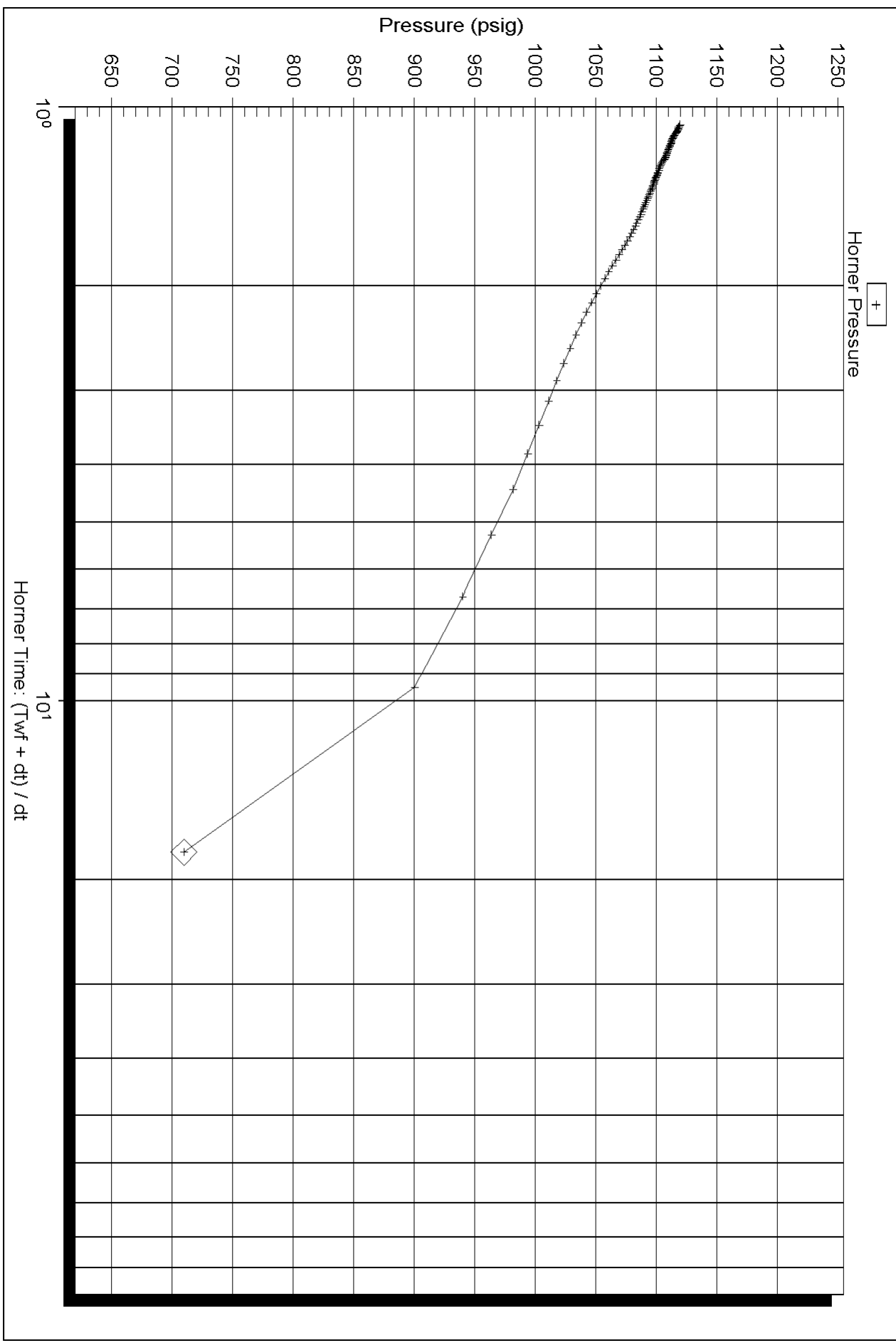
Samuel Gary J. & Associates

Cooper #1-30

DST Test Number: 1



### Horner Plot



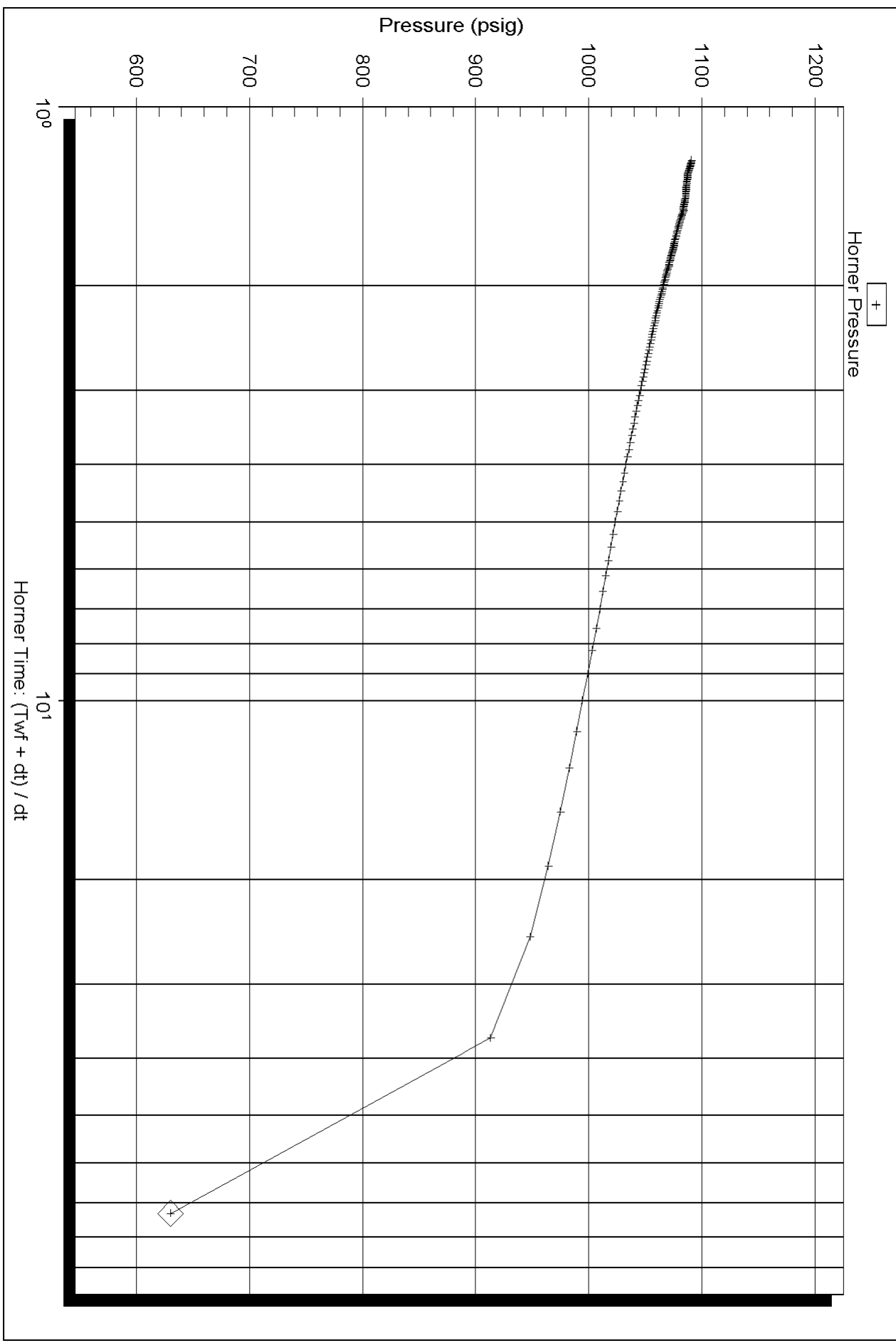
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P<sub>r</sub> :

Slope (m) : kpa/log cycle

Flow/Cycle: 1

### Horner Plot



Serial Number: 8366 (Inside)

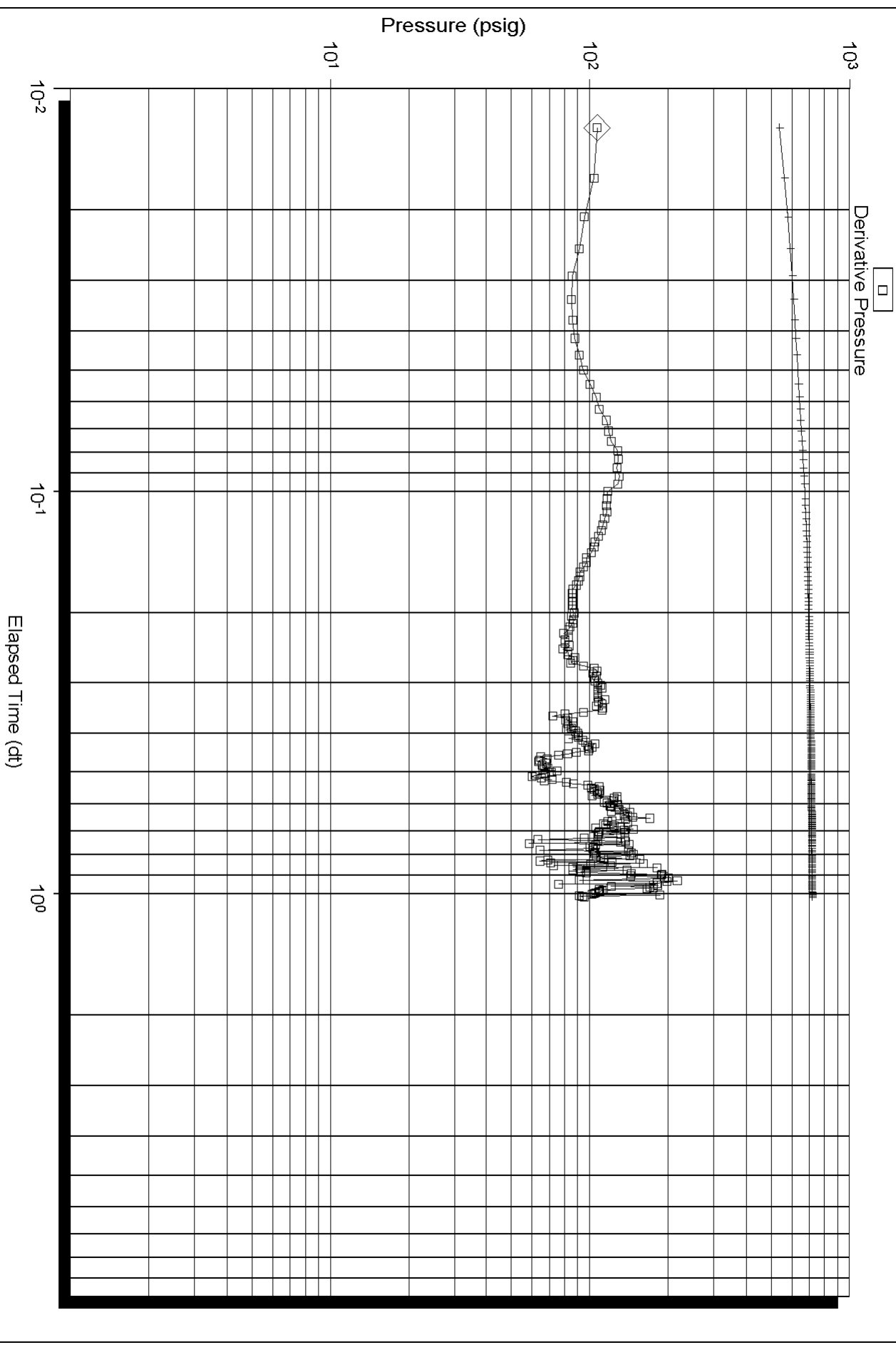
Pr :

Slope (m) : kpa/log cycle

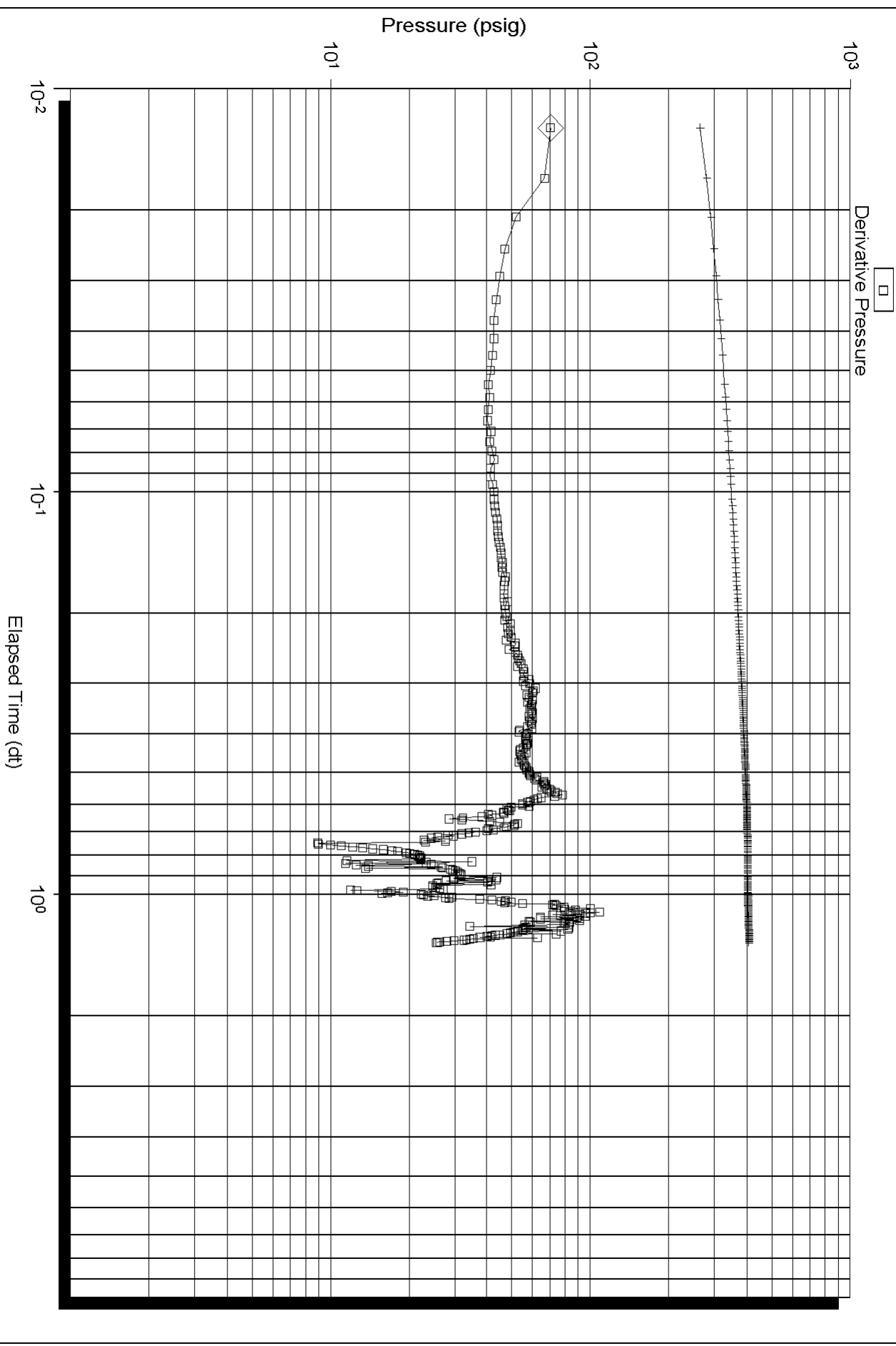
Flow/Cycle: 2

Horner Time: (Twf + dt) / dt

### Log-Log and Pseudo-Derivative



# Log-Log and Pseudo-Derivative



Serial Number: 8366 (Inside)

Flow Cycle: 2